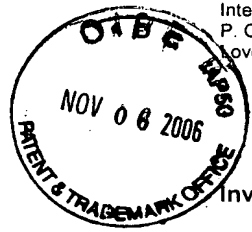


11-9-06

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ATTORNEY DOCKET NO. 10990105-1



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Michael P. Caren

Serial No.: 09/302,898

Examiner: Betty J. Forman

Filing Date: April 30, 1999

Group Art Unit: 1634

Title: METHODS AND DEVICES FOR POLYNUCLEOTIDE ARRAY FABRICATION

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on 10-02-2006
This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new grounds of rejection.)

No fee is required for filing of this Reply Brief.

If any fees are required please charge Deposit Account 50-1078.

Respectfully submitted,

Michael P. Caren

By

Bret E. Field for Timothy Joyce
Attorney/Agent for Applicant(s)

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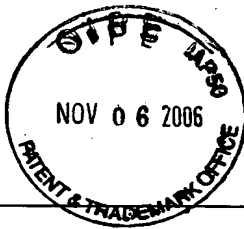
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APPELLANTS' REPLY BRIEF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Attorney Docket No.	10990105-1
	Confirmation No.	7610
	First Named Inventor	CAREN, MICHAEL P.
	Application Number	09/302,898
	Filing Date	April 30, 1999
	Group Art Unit	1634
	Examiner Name	FORMAN, BETTY J.
	Title:	"METHODS AND DEVICES FOR POLYNUCLEOTIDE ARRAY FABRICATION"

Sir:

This Reply Brief is in response to the Examiner's Answer mailed by the Office on October 2, 2006

Please charge any required fees to Deposit Account No. 50-1078, order number 10990105-1.

REPLY BRIEF

In this Reply Brief, the Appellants address comments made in the Examiner's Answer mailed October 2, 2006. The Examiner has raised no new grounds for rejection. The Appellants note that all arguments presented in the prior Appeal Brief still apply with equal force, but are not reiterated in full herein solely in the interest of brevity and for the convenience of the Board.

I. The rejection of Claims 1-18 and 20-48 Under 35 U.S.C. § 103(a) over Baldeschwieler et al. in view of Weber et al.

The following arguments are presented in response to certain misconceptions set forth in the Examiner's Answer, some of which are repeated numerous times throughout the Answer:

The Non-analogous Art Issue

The rationale used by the Examiner in for the Examiner's assertion that the two documents are from analogous arts centers on the devices used in the respective documents and not on the differences regarding how the respective devices are used. It is this difference in use that makes the two arts that are the source of the documents non-analogous.

A simple example may be helpful to illustrate this point. Suppose one invented the use of a tennis racket as a sieve to separate lumps of solids from a liquid. Documents from the tennis racket art, where the rackets are used for sports gear, would be non-analogous, even though both employ tennis rackets. Problems arising from striking a tennis ball, such as misalignment of strings and the like, would likely not arise if one were filtering a liquid through the racket. These are problems associated with use. The standard set forth in MPEP § 2141.01(a) would apply to this example, as it does in the present application to Baldeschwieler et al. and Weber et al.:

'In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.' *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443,

1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ('A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. '); *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993); and *State Contracting & Eng'g Corp. v. Condotte America, Inc.*, 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003) (where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved).

Thus, an inventor in the sieve art would not have considered the sports equipment art to be pertinent, and the subject matter of the tennis racket art would be irrelevant to the inventor's particular problems with filtering.

The Examiner mistook Appellants' arguments about the problems with printing with printing ink onto paper versus the problems with deposition of biopolymers onto an array substrate as being germane to the issue of the problem that Appellants discovered and solved. Answer at page 4. In fact, these arguments were put forth to show that the two documents are from non-analogous arts.

The Issue of Dried Spots in Weber et al.

The Examiner's conclusion that the ink spots tested in Weber et al. are dry is unsupported by the Weber et al disclosure. The only basis advanced for this conclusion is the use of different words (drops vs. dot or spot) in Weber et al. However, anyone who has ever deposited a drop of ink from a fountain pen onto a piece of paper knows that the resulting ink spot does not dry immediately. The spot often needs to be blotted and even then takes some time to dry. The Examiner is reading information into the document that is not necessarily present therein.

The Issue of Evidence Regarding the Problem Discovered and Solved by Appellants

The Examiner has required sufficient evidence that the problem existed or that a known problem was solved by the claimed invention. Answer at page 5. Appellants submit that such a standard is not the standard of *In re Peehs*, 612 F.2d 1287 (CCPA 1980), which was cited in Appellants' brief. A problem or the cause of a

problem cannot be discovered if it is known.

Appellants have recognized that many factors lead to the problem of spot position errors or other spot errors, and solved the problem by addressing those factors by means of the claimed invention. For example, as set forth at page 3 of Appellants' specification, under Summary of the Invention, Appellants realized that observing locations of droplets immediately after deposition would not provide a convenient indication of operator or reaction failure. Further, Appellants realized that even drops correctly deposited at target locations may move from those locations before they have dried completely.

As set forth at the bottom of page 2 to the top of page 3 of the specification, spot errors are a problem in array fabrication. If the Examiner believes that spot position error is not a problem in the art, the burden is on the Examiner to provide evidence in this regard. Moreover, Appellants set forth the benefits of their invention at page 8 of the specification. For example, Appellants invention permits compensation for spot location or polynucleotide concentration errors during array manufacture. Appellants submit that the Examiner's requirement for a declaration to substantiate such statements made in the specification is improper and unduly burdensome.

The Issue of Whether Certain Claimed Elements are Actually Disclosed by the Cited Art

With regard to Group II, claims 25-38 and 42, the Examiner asserted "the claims are drawn to an imaging system." Answer at page 5. Appellants presume, based on the context of the remainder to the paragraph that the Examiner intended *the claims are NOT drawn to an imaging system*. The Examiner views the imaging system as an intended use only.

Appellants note that an imaging system is clearly recited in the body of Claim 25 in section (b).

With regard to Group IV, Claim 11, the Examiner appears to be equating reflection with fluorescence. Answer at page 7. The two are not equivalent, and only hindsight would cause one to use reflection to detect fluorescent spots.

With regard to Group V, Claim 20, the Examiner asserted that Weber discloses halting printing automatically. Answer at page 7. The section cited by the Examiner discloses only the indication of trouble by an alarm, not automatic halting of printing. The Examiner notes at page 8, last paragraph of the Answer that the alarm signals an operator. Presumably the operator then halts the printing. This is not automatic halting of printing.

With regard to Group VI, Claims 23 and 43-45, the Examiner asserted that because operation of the ink-jet device in Baldeschwieler et al. is controlled by a processor, loading the dispensers in a pattern in which at least some of the dispensers are loaded with the same fluid is also disclosed. Answer at page 8.

This is another unsupported conclusion. There is nothing that in Baldeschwieler et al. to indicate that loading is effected by the processor, and nothing to indicate loading in a pattern. As noted above, an operator is present during the deposition process. One could just as easily surmise that the operator loads the dispensers before the processor takes over operation.

With regard to Group VII, Claim 24, the Examiner asserted that when the operator in Weber et al. cleans the dispenser after being notified by the alarm, the same dispenser is not used, and that a clean dispenser is a different dispenser.

However, if the operator halts operation to clean the dispenser, the same dispenser will be used when operation resumes. Appellants do not understand how cleaning a dispenser creates a different dispenser. Washing one's car does not produce a different car.

With regard to Group VIII, Claims 39 and 40, the Examiner's argument (Answer at page 9) that Baldeschwieler et al. discloses a moveable camera does not

address the claim element that the light receiving element is mounted for movement by the transporter.

With regard to Group IX, Claims 46-48, the Examiner reiterated her argument used in Group VI *supra* regarding loading by the processor. Answer at page 9. Appellants reiterate their response to this argument. Further, the Examiner considered such loading to be an intended use that "does not further limit or define the structure of the processor." *Id.*

A processor that can load dispensers is different from one that cannot. Therefore, a recitation of a function of the processor implies the presence in the processor of the requisite structure to do so.

In view of the deficiencies in the documents cited in the statement of the rejection in establishing a *prima facie* case of obviousness for the claimed invention, Appellants respectfully request reversal of this rejection.

II. The rejection of Claims 1-18 and 20-48 Under 35 U.S.C. § 102(a) or 35 U.S.C. § 103(a) over Graves et al.

With regard to Group I, Claims 1-9, 12-18, 20-22, and 41, the Examiner has not addressed Appellants' argument in their brief that Graves et al. fails to teach or suggest all the elements of all the rejected claims. For example, forwarding the array and medium to a remote user (Claim 18); the fluid dispensing head with multiple drop dispensers (Claim 21); and the control processor's comparing and evaluating function when multiple error indications are generated (Claim 23) are included in the rejection with no apparent rationale or justification. Accordingly, because Graves et al. does not teach every element of the presently claimed invention, there is no anticipation or *prima facie* obviousness.

The Examiner asserted that the spacing of needles in Graves et al. "could reasonably be interpreted as a target pattern." Answer at page 10. Such an interpretation is a possible and not a necessary interpretation. An anticipation

rejection that is based on inherency must be supported by factual and technical grounds establishing that the inherent feature must flow as a necessary conclusion, not simply a possible conclusion, from the teaching of the cited art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int. 1990); *In re Oelrich*, 666 F.2d 578, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981).

Certain Claimed Elements are Not In Fact Disclosed by the Cited Art

With regard to Group II, claims 25-38 and 42, the Examiner asserted "the claims are drawn to an imaging system." Answer at page 11. Appellants again presume, based on the context of the remainder to the paragraph that the Examiner intended *the claims are NOT drawn to an imaging system*. The Examiner views the imaging system as an intended use only.

Appellants note that an imaging system is clearly recited in the body of Claim 25 in section (b).

With regard to Groups III and IV, Claims 10 and 11, the Examiner appears to be equating light scattering with fluorescence emission. Answer at page 11. The two are not equivalent.

With regard to Groups VI and IX, Claims 23 and 43-45, and 46-48, respectively, the Examiner asserted that Graves et al. discloses that multiple dispensers are loaded with the same fluid. Answer at page 12.

However, there is no disclosure of how the dispensers are loaded. There is nothing that in Graves et al. to indicate that loading is effected by the processor, and nothing to indicate loading in a pattern.

With regard to Group VIII, Claims 39 and 40, the Examiner draws attention to Figure 3 on page 5088 of Graves et al and to the figure legend for a disclosure of an imaging system that includes a light receiving element mounted for movement by the transporter. The Examiner asserted that the video microscope is mounted on the Z drive. Answer at page 12.

However, the figure legend says clearly that the video microscope is not shown and is added later to the left of the Z drive. Therefore, there is no indication that the microscope is moved by the transporter.

In view of the deficiencies in the documents cited in the statement of the rejection in establishing anticipation or a *prima facie* case of obviousness for the claimed invention, Appellants respectfully request reversal of this rejection.

SUMMARY

The Appellants respectfully request that the rejections of claims 1-18 and 20-48 under 35 U.S.C. § 103(a) and under 35 U.S.C. § 102(a) or 35 U.S.C. § 103(a) be reversed, or that the application be remanded to the Examiner with instructions to issue a Notice of Allowance.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP



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